Litigants must be left free to select whom they may to sustain their argument. Counsel addresses its energies toward the choice of witnesses whose testimony shall add the greatest weight and emphasis to their cause.

Who then may be properly designated as expert on a question of medical science? Is it not the man who possesses liberal learning, high ethical character, scholarship and extended training in a special branch of medicine or surgery and a reputation as a studious and conscientious practitioner? Such men may be found in every populous community in this country. If they are rarely seen on the stand as experts, it is because their altruism and sense of humor can find a more admirable expression elsewhere. And until our laws governing expert testimony are so changed as to foster a frank, honest, dependable scientific opinion, those gentlemen competent to give it will be increasingly conspicuous by their absence from the courtroom.

Members of the bar would be surprised could they know how widespread and deepseated is the diffidence and aversion in the medical profession toward appearance in court to offer expert evidence. If the so-called "expert witness" has brought his evidence into such contempt as to draw forth the deprecating comment of a Supreme Justice of the United States, we may well pause to enquire at whose instance is this incompetent called into the presence of the learned court? Who is responsible for his appearance and his banalities in the halls of justice? At whose command does this pariah of science become the jester to enliven the jaded officers of a drowsy court, or incite the caustic philippics of a scoffing bar?

We must confess to a frank impatience with the ready criticism of those who should be most interested in the fairness and integrity of the expert witness, and most ready to establish practical conditions which shall effectually shelter the taking of expert evidence. If the officers of the court in the commonwealth of California are really sincere in their desire to regulate the taking, and elevate the quality, of expert testimony, then their opportunity to initiate these reforms, by co-operating with those learned professions called upon by them to give expert evidence, was never more golden.

We are firmly convinced that no bill can be enacted into a law governing expert evidence which does not include every profession and interest which may be called upon to offer expert opinion. The relations of this witness to the court must be so free from possible bias as to practically constitute him an officer of the court. If the selection of the expert shall be made by the court from a list of qualified men submitted by the various scientific bodies represented, the question of competency will have been fairly established. If the state shall define the compensation of the expert, he will insofar become immune from the charge of commercialism.

Should either the plaintiff or defendant desire to call experts additional to those selected by the court, that privilege should be provided for, but their status and compensation must be considered independently. No act should pass which shall not impartially protect to the fullest the just rights and interests of litigants.

Many of the states of the union have made repeated efforts to pass bills governing the appointment of the expert witness. Some of the states, like our own, have succeeded in getting more or less admirable bills through one of the houses of the legislature. Those in California who for more than five years have labored sedulously for these reforms have faith that in spite of an incredible apathy we shall in the end succeed.

Large gains have been made in arousing the various scientific professions to the conviction that expert evidence, to have a value in court, must be given under proper scientific conditions; that these conditions must be established and maintained by those qualified to interpret them; and that through concerted action, by which the interests of all shall be conserved, we may confidently co-operate with the bar in securing such legislation as shall make a *fait accompli* of this most needed reform.

THE CURE OF SYPHILIS.*

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It is not the purpose of this paper to present a startling new remedy for syphilis, nor to report any spectacular results of treatment. Its object is rather to emphasize the fact that the treatment of the disease as carried on in a deplorably large percentage of the cases has been utterly inefficient.

It is most astonishing how widely diffused are false ideas concerning syphilis. As a member of the California State Board of Medical Examiners the writer has taken part in several hundred oral examinations the past year. The applicants were all individuals licensed prior to 1901 in some other state in the Union and every section of the country was represented. The absolute ignorance displayed by most of them and false ideas held by many others concerning syphilis was something most astonishing, particularly in view of the fact that there has been so much publicity given the subject in recent years in the lay press as well as in medical publications. Of course, it is true that most of the applicants were individuals who had either failed in their practice in their own states or had left on account of poor health,—and for these reasons, as well as others, had not kept abreast of the times. But we must remember that these licentiates, as well as the ever numerous illegal practitioners, do not hesitate to assume the responsibility of taking full charge of and guiding these patients through the course of their lues and advising them as to the future,—and to the average layman all "doctors" are alike.

The past few years have seen the development of valuable laboratory aids to diagnosis and also of a remarkable remedy and a successful plan of treatment whereby the salvarsan and mercury are given together. Notwithstanding this, it is becoming more and more apparent that there are

* Read before the Nevada State Medical Association, October, 1914.

large numbers of syphilitics who are temporarily clinically cured and who consider themselves really cured; but who are not well serologically (as determined by blood and spinal fluid examinations). One does not have to go over many cases in a large clinic before this fact becomes very evident. Probably it can be said that this sad state of affairs is largely the fault of the original medical adviser rather than the fault of the patient. However, it is only too well realized that patients frequently take the vital matter of deciding whether or not they are cured, into their own hands. Even in the latter event, the medical attendant is often to be blamed for not properly educating his patient. The prompt and spectacular clinical results of the salvarsan-mercury treatment (or occasionally only one injection of salvarsan) invariably impress the patient,. and most unfortunately the unwarranted optimism of the medical attendant occasionally helps the patient in the belief that he is cured. Hasty ill-founded conclusions based on spurious Wassermann and Noguchi tests as applied by unreliable laboratories, or wrongly interpreted luetin reactions, account for a number of supposedly cured cases that show up with recrudescences.

If the blood that is taken for the laboratory test is not taken with extreme care to avoid contamination, and if the test tube likewise is not properly prepared, an erroneous result is inevitable. The blood ought not be taken within three or four hours after a hearty meal, because at that time it is full of material that might cause a spurious reaction. The same caution could apply to the use of alcoholic drinks as it has been found that false reactions may then be produced. Every precaution should be taken to keep even a very small amount of water from contaminating the specimen,—therefore all instruments, tubes or containers used should be absolutely dry. Likewise they should be absolutely free from acid or alkali.

Whenever possible it is best to send the serum instead of the whole blood, to the laboratory because blood cells decompose and possibly may liberate bodies that would influence the reaction.

When one considers these facts and realizes that there are many, many specimens collected under unfavorable conditions and sent to unreliable laboratories it is not surprising that there are in our midst many unfortunates who think that they have syphilis but have not the disease and never had it, and many syphilitics who have been declared cured when they were not. Added to these cases there is a large number of misguided individuals who have been in the willing hands and uncertain guidance of advertising quacks, dispensing druggists, Christian "scientists," chiropractors and other irregulars.

Included with this large number of unfortunates (for whom a sad future seems assured) there are many who, after a brief sojourn at some advertised springs where they drink freely of the water and bathe religiously and receive sufficient mercury treatment to temporarily dispose of noticeable symptoms, regard themselves as cured. It is from these victims that many late cases of lues arise,—most of our brain and nerve syphilis. One occasionally hears the statement that syphilis is "never really cured." It can be said that syphilis as treated in a large percentage of the cases (as indicated in the foregoing remarks) is not cured. The remedy for this state of affairs is in the proper education of the public as well as all those who assume the responsibility of taking charge of the sick.

In addition to the above, there are many patients who of their own accord and against the advice of their medical advisers discontinue treatment too soon. The large number of patients constantly seen with cutaneous or systemic manifestations of late lues, and the many cases of hereditary lues,—all present incontrovertible evidence of the fact that in the past as well as at present, lues in a large percentage of cases is not sufficiently treated.

We are now receiving the "crop" sowed by those who in the early salvarsan era gave one injection and assured their patients of a cure. The pill "crop" is a very large one,—as is also the sulphur springs "crop" and the "crop" of the early salvarsan era. Most of the patients presenting late lues give a history of having been temporarily relieved by one or all of these means.

This leads to the main question as to what is found to be the most effective plan of treatment. First of all it can be said without fear of successful contradiction that the salvarsan-mercury treatment is the most rapidly successful of any so far devised. Even in late syphilis it is advisable to use this combination, supplementing the same, of course, with the iodide. In every case, a Wassermann test of the blood should be made before beginning the treatment and later, to check up the same.

First in efficiency, convenience and in every way most desirable, come the injection methods. If the patient can call every day or so, probably the soluble preparations are the most desirable, but for obvious reasons, one cannot often count on having patients call regularly enough for this plan of treatment. Where it can be accomplished, prompt and satisfactory results are obtained. Intravenous injections are the best but the intramuscular are almost as good. Deep intragluteal injections of the soluble salts rapidly find their way into the blood stream on account of the great vascularity of the muscle. Arsenic given in this way in combination with the mercury often proves to be of great value. In most cases we have to resort to the weekly injection of the so-called insoluble salts. We have found the salicylate of mercury and the gray oil to be the most desirable in every way,—and prefer the former. It is considered to be slightly soluble. We prepare a 10% emulsion of the salicylate of mercury in albolene and inject deeply intramuscularly one to one and one-half cc. every seven or eight days for ten successive treatments. It is found to be less painful than the gray oil, although twice as many doses of the former have to be administered. We do not resort to calomel or the various other insoluble preparations that are recommended by different syphilol-

ogists. It is hardly necessary to state that our patients are frequently examined during the treatment and if organic disease (not luetic) is found, or particularly if the kidneys show impaired function, the mercury is discontinued. Naturally in the cachectic, the aged, the arteriosclerotic and the tuberculous if one gives the mercury it is given with extreme care. This applies also in a less degree to the pregnant. In all cases the urine should be examined frequently and the gums and teeth should be watched closely.

Next in efficiency to the injections comes the inunction method, and next, the internal administration of the drug in solution,—and lastly should be mentioned the drug in pill form. Experience has shown that the treatment by pills (particularly the protiodide pills so much in vogue a few years ago) is inefficacious in many cases although under proper conditions good results have been observed. The pills often are not properly made, or too old, or for some other reason they may pass through the alimentary tract unabsorbed. With the internal administration of mercury in any form, one is never certain that all of the drug is absorbed. Active lesions and the presence of a positive Wassermann that is often observed under this plan of treatment give the best proof of its inefficiency. In most cases, it is still considered very desirable to give iron and arsenic or perhaps strychnia during the course. It cannot be stated too often that repeated Wassermann tests of the blood and spinal fluid are very necessary to check up the treatment and later to decide the question of a cure. It has become well established that cerebro-spinal involvement may occur very early in lues as shown by early spinal fluid positive Wassermanns. For this reason and also on account of the rapidity with which syphilis invades all of the tissues and organs the treatment of early syphilis should be as intensive as it can be made.

If possible the chancre should be extirpated, but if this cannot be accomplished, the next best thing would be to apply to the lesion a calomel ointment, 50%. This measure removes or destroys immense numbers of the spirochaetae in situ. Of course the organisms are also scattered through the system, but no one will dispute the desirability of quickly destroying such a large focus of the disease. As soon as possible, of course, salvarsan should be given intravenously (in as large dosage as conditions will permit). In every case a thorough examination should be made to determine whether or not there are any contraindications for salvarsan or mercury therapy. The following are recognized contraindications: Organic kidney disease (provided it is not luetic), cardiovascular degenerative conditions, organic disease (non-luetic) of any of the viscera, middle ear or eye disease (non-luetic), pronounced asthenia or cachexia. In case any of these states are luetic, the drug could be given cautiously. The patient should be carefully watched during the course of the treatment for evidences of untoward effects of the drugs. If this is done, one is pretty sure to avoid unpleasant complications occasionally met with. Most of the reported fatalities from salvarsan can be attributed to faulty technic and to failure to make proper selection of the cases.

For awhile, neosalvarsan, on account of the ease with which it could be prepared and administered, gave promise of supplanting salvarsan. It soon became apparent, however, that its action was not as powerful as that of salvarsan, larger doses and a greater number of injections being necessary to obtain the desired results. So the majority of syphilologists have returned to the intravenous administration of salvarsan in properly selected cases. This is used exclusively along with the mercury in Dr. Wilbur's service. Mercury must still be relied upon and it can be considered to be almost as valuable as salvarsan. The two drugs used alternately give better results than either one alone, so this plan of treatment has been adopted generally.

What might be considered an ideal course of treatment of early lues at the present time would be as follows: At the time of, or after the destruction of the main focus of the disease (as already suggested) a full dose of salvarsan should be given intravenously and this should be repeated every ten days until five or six doses have been administered. During this course, salicylate of mercury or gray oil should be given intramuscularly every seven or eight days until ten of the former or five of the latter are given. Then the blood and spinal fluid Wassermann could be tried. If either gives a positive result, or if any clinical signs remain, it should be considered as an indication for more vigorous salvarsan-mercury treatment. If both are negative and there are no other signs of the disease it would be advisable to omit all specific treatment for a month or six weeks, after which the blood and spinal fluid could be tested again. If the infection is very severe and symptoms persist, in the interval some soluble salt could be injected. During the interval a ferruginous tonic could be given. The results of these tests or the presence or absence of clinical symptoms should determine whether or not to give another course of treatment. If all signs are negative then it would be advisable to wait another month and test the blood and spinal fluid. After this period, a course of intramuscular injections of mercury should be given, whether the reaction is negative or positive. If clinical or serological symptoms should appear at any time, it would be well to give another series of salvarsan and mercury injections. It may take two or more such courses of the combined treatment to render a positive Wassermann negative. Should symptoms still be present after the first year, it is considered advisable to give potassium iodide, just as it has been given successfully for many years.

It should be borne in mind always that cerebro-spinal complications may occur even in early lues the first evidence of the same being observed in the spinal fluid. The treatment of this phase will be touched upon presently.

It has been proven that lues can be aborted by early intensive treatment; but it has not yet been demonstrated that such a fortunate result is

obtained in many of the cases. Complete disappearance of all symptoms (clinical and serological) is commonly observed after two thorough courses of treatment as just outlined; but it is too early to be able to say that such cases can be declared cured. In the light of our present knowledge and experience it seems best to give a course or two of the mercury treatment yearly for the two years following the first period of salvarsan-mercury therapy and to make repeated Wassermann tests. After such a course, if the complement fixation test remains negative, a "provocative" injection of salvarsan followed by a blood test could be made. If after all this the blood and spinal fluid show negative results, in all probability the patient could be declared cured of his disease. Many authorities now consider that after efficient intensive treatment, a period of at least one year showing negative blood and spinal fluid Wassermann should elapse before the patient should be given permission to marry. Certainly it would seem that this is the safest plan to follow.

Early lues responds most favorably to intensive treatment and when the method is carried out thoroughly, a very good prognosis can be given. With late lues it is different; the problem is more difficult because some of the organisms have become localized in some remote part of the body most difficult to reach through the blood stream. If there are no contraindications (particularly impaired kidneys) intensive treatment at this stage may give good results. However, it is much more difficult to change the serum reactions in this phase of the disease. Of course, the iodides must be given here with the salvarsan and the mercury. In the late cases one is very likely to see cerebro-spinal involvement. For the special treatment of the cerebro-spinal involvement, the intraspinous injections of salvarsanized serum (Swift-Ellis) have been recommended,—but it is a more or less dangerous and uncertain procedure even in the hands of the experienced. *Very serious results have followed attempts at carrying out the method in various parts of the country.* Intensive treatment of salvarsan intravenously and mercury intramuscularly are much preferred by some authorities who have observed good results from the same.

In concluding, it would be well to briefly review the main facts that the writer desired to emphasize:

1. The treatment of syphilis in the past has been inefficient in a deplorably large percentage of the cases thus accounting for the large number of cases of brain lues and other late complications that one sees.

2. There are many syphilitics who are temporarily "cured" and who consider themselves cured, but are not well (as determined by blood and spinal fluid examinations).

3. Owing to spurious blood tests there exist many unfortunates who have been convinced that they have syphilis and never had the disease, and many luetics who have been declared cured but are not cured. A negative Wassermann may be obtained in syphilis at times, with a triple plus reaction later.

4. This state of affairs is due to the ignorance of the public and to the fact that there are in our country immense numbers of uneducated and unprincipled individuals who pretend to make diagnoses and then assume full charge of the treatment.

5. Poor medical practice laws or the failure to properly enforce the law, can be said to be responsible for this state of affairs in some cases,—but the main blame must rest with the public for permitting bad laws to pass and for allowing charlatans to prey upon them.

6. The final remedy lies in the proper education of the public.

The following is a copy of a circular that is given to every one of the luetics in the writer's clinic. It is based partly upon printed instructions issued for the same purpose in the skin clinics at the Charite Hospital (Berlin), the Allgemeines Krankenhaus (Vienna), and the St. Louis Hospital (Paris). It has proven to be of valuable assistance in obtaining intelligent co-operation on the part of the patients and perseverance in the treatment of these cases:

INFORMATION REGARDING SYPHILIS.

Syphilis is a very contagious disease. It is quite prevalent. It remains contagious for years. It is due to a microbe, the nature of which is now definitely known. The disease is usually quite curable. It is also preventable.

The manifestations of syphilitic infection usually appear in from two to six weeks after exposure to the disease, in the formation of a sore at the site of inoculation.

The further manifestations consist of skin eruptions of various types which recur frequently in the course of the next few months or years (eruptions of the skin, sexual organs, the buttocks, the palms of the hands and soles of the feet, the lips, tongue, tonsils, etc.). The disease may also affect any organ or tissue of the body.

Often early symptoms trouble one very little and therefore may be overlooked, or mistaken for something else by the patient. In such cases severe symptoms may appear months or years later. Proper treatment will prevent the appearance of these symptoms.

Persons suffering with syphilis should boil all articles used by them which may carry the disease, in order to protect the innocent.

The disease aside from sexual contact, is communicated in many ways, among which may be mentioned kissing, using (after a syphilitic person has done so) any of the following: Glasses or cups, saucers, spoons, knives, forks, cigars, cigarettes, pipes, soap, combs, brushes or wearing apparel, as well as by direct contact with a person having syphilis or sleeping in beds used by syphilitics. The infection enters the system through some cut or abrasion in the skin or mucous membrane. This cut or abrasion may be so very slight as to be almost invisible.

Syphilis is ordinarily quite curable; but it cannot be cured by a single treatment. One injection of salvarsan (606) is not enough. Repeated treatments are necessary under proper medical supervision. Treatment must not be given up until the attending physician advises that it is safe to do so.

The dangers of the disease include insanity, blindness, paralysis, loss of the nose and palate, decay of bones, and other disfiguring or destructive results.

Only when a patient has taken thorough treat-

ment at the hands of a competent physician is he protected from the later severe manifestations of the disease.

Persons having syphilis should carefully observe the following rules: Look carefully after the condition of your mouth. Brush your teeth thoroughly three times per day and use the prescribed mouth wash frequently. In cleansing the mouth, pay especial attention to the gums and folds behind the teeth. If you have any sores on the gums, inside the cheeks, or on the tongue or swollen gums, notify your doctor promptly. When you consult a dentist, be sure and tell him that you have syphilis (for the protection of others).

During the course of your disease and while you are taking treatment, you must lead a regular and rational life, avoiding all excesses. Avoid all strongly spiced foods and be very moderate in the use of wine, beer or other liquors, and tobacco. It is best to avoid them entirely, for they add to the dangers of the disease.

You should at all times avoid all possibility of communicating the disease to others.

You should not marry sooner than four years from the time of your infection. Marriage at an earlier date is dangerous to both wife and child. Instructions as to when you shall cease treatment and when you may marry, must always be given by the doctor.

Make it a rule to report to the doctor immediately any unusual symptoms.

Keep this paper and show it to your doctor and always ask his advice regarding your sickness.

In the future whenever you have occasion to consult a doctor for any purpose, be sure and tell him that you have had syphilis. It is of the greatest importance for him to know this.

PROGRESS IN OBSTETRICS.

By ARTHUR H. MORSE, M. D., San Francisco.
(From the Woman's Clinic of the University Hospital.)

During the past year progress in obstetrics, at least as far as the more practical aspects of the subject are concerned, has been marked not by the introduction of new methods but by the settlement of disputed therapeutic questions. Naturally, in the presence of many complications the procedure of choice remains the subject of honest difference of opinion. Good authority is not unanimous, for example, regarding the proper treatment of placenta previa; and, also, equally competent men oppose each other in the discussion of the treatment of albuminuria during pregnancy. On the other hand, the uniform experience of large clinics in the investigation of a number of practical problems enables us to adopt with confidence measures that heretofore were really in the experimental stage. No better example of this can be cited than the use of the extract of pituitary gland at the time of labor.

PITUITARY EXTRACT.

In 1909 the physiological action of pituitary extract upon the uterine muscle was demonstrated independently by Kehrer and by Dale. Subsequently, it was shown that the substance which stimulates the uterus to contract is derived from the intermediate and posterior portions of the gland. While the anterior portion of the gland hypertrophies during pregnancy and, therefore, must play a role in metabolism during that period, it has no effect upon the uterine muscle fibers. Accordingly, the various commercial preparations—vaposole, infundin, pituglandol, and pituitrin—which are used to increase the frequency and vigor of contractions at the time of labor are made from the posterior lobe.

As an abortifacient pituitary extract, alone, is powerless; but, occasionally, it has been found useful to supplement the effect of a bougie or a bag.

During labor at full term the extract should not be administered until the cervix is fully dilated, and not even then in the presence of a faulty presentation or pelvic contraction. Unfortunate results have been reported where this precaution was disregarded. In several cases where the treatment was used during the first stage of labor the cervix became unusually rigid and incisions were required to effect delivery. A selective action of the extract upon the cervical muscle has been observed also in cases of breech presentation, and as a result great difficulty was experienced in extracting the head. The most striking illustration of this action upon the cervix is afforded by the report of a case of twin pregnancy in which pituitary extract was administered after the birth of the first child; and, in order to effect delivery of the second, it was necessary to dilate the cervix manually.

Pituitary extract is most useful in the treatment of uterine inertia in the second stage of labor. It produces rhythmical, intermittent contractions and often obviates the necessity for the use of forceps. A "contraction storm" coincident with the birth of the head has been noted and this phenomenon must be controlled by inhalation of chloroform, otherwise deep perineal lacerations are frequently a result.

The effect of pituitary extract differs from that of ergot in that the former does not cause tetanic contractions during the second stage of labor and does not interfere with the separation and expulsion of the placenta. A few authors express the view that the administration of pituitary extract may be followed by atony of the uterus. However, this has not been the experience of the Dresden Clinic, where in the third stage of labor a decrease in the amount of bleeding was noted. Similarly, in cases where the extract was used Madill and Allan found that the placenta separated promptly and was expelled spontaneously. It has also proved valuable in the control of postpartum hemorrhage; but it is less reliable than ergot in the treatment of subinvolution.

The kidneys are not affected by pituitary extract, consequently it may be used in cases of albuminuria and of eclampsia. It offers a most reliable means of preventing undue loss of blood when Caesarean section is performed and should be administered about the time when the patient goes under the influence of the anesthetic. Contraindications to the use of pituitary extract as pointed out by Heany are in arteriosclerosis, uncompensated valvular heart lesions, and myocarditis. Since it causes a rise of blood pressure and a slowing of the pulse its use in the presence of these conditions may be attended with great danger.

MANAGEMENT OF THE THIRD STAGE OF LABOR.

A less active management of the third stage of